

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-001759**Date Inspected:** 12-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 600**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name:	Huang Wen-Pang, Hu Wei Qing			CWI Present:	Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No	N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No	N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No	N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No	N/A
				Delayed / Cancelled:	Yes	No	N/A

Bridge No: 34-0006**Component:** Tower & OBG**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

Bay 3 OBG:

The QA Inspector randomly observed ZPMC Non-Destructive Technicians Cai Xin Xin and Zhou Dongyun, utilizing the Magnetic Particle Testing (MT) Method to examine the fillet welds attaching T-Stiffeners to Side Plate SP052-01 Weld Joint (WJ) Numbers 015 through 028, and Bottom Plate BP006-01 WJ's 008 through 019. There appeared to be no indications and ZPMC QC accepted the welds on both parts.

The QA Inspector randomly observed several areas in the fillet welds attaching T-Stiffeners to Bottom Plate BP018-01, which had been excavated to remove weld discontinuities. These areas had been marked up by ZPMC QC prior to the excavating. The QA Inspector randomly observed that the indications still remained in these areas even after removing the weld metal flush with the base metal of the T-Stiffeners webs. The QA Inspector also randomly observed an area of worm hole porosity that had not been marked by ZPMC QC, adjacent to areas that had been marked and excavated. The attached photographs provide additional detail.

Bay 7 OBG:

The QA Inspector randomly observed ZPMC personnel performing layout on 300 x 300 x 10 mm A500 Grade B Square Structural Tube for Floor Beam Diagonals.

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The QA Inspector randomly observed ZPMC Welders Wang Linjiang ID Number 051356 and Chen Chuan Zong ID Number 044824, utilizing the Flux Cored Arc Welding (FCAW) Process with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2131 in the 2F (Flat Fillet) position to weld Connection Plates piece mark X3H for Floor Beam Diagonals. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 306 amps, 30.3 volts with a travel speed of 317 millimeters (mm) per minute for Mr. Wang and 296 amps, 30.3 volts with a travel speed of 328 mm per minute for Mr. Chen. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Welder Wang Liansheng ID Number 051127, utilizing the FCAW Process with ZPMC WPS WPS-B-T-2132-3 in the 2F (Horizontal Fillet) position to weld the flange to the web on Floor Beam Diaphragm FB003-09. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Welder Zhang Qingquan ID Number 044774, utilizing the FCAW Process with ZPMC WPS WPS-B-T-2132-3 in the 2F (Horizontal Fillet) position to weld the flange to the web on Floor Beam Diaphragm FB003-04. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC Welders Wang Linjiang ID Number 051356 and Chen Chuan Zong ID Number 044824, utilizing the FCAW Process with ZPMC WPS WPS-B-T-2132-3 in the 2F (Horizontal Fillet) position to weld Connection PLates piece mark X3H for Floor Beam Diagonals. The QA Inspector randomly observed ZPMC CWI Huang Wen-Pang monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 308 amps, 30.6 volts with a travel speed of 419 mm per minute for Mr. Wang and 286 amps, 30.2 volts with a travel speed of 345 mm per minute for Mr. Chen. ZPMC CWI Hu Wei Qing informed the QA Inspector that the welders switched from the 1F position to the 2F position because of a minimum weld size of 10.5 mm on the 1F WPS. Weld parameters appeared to comply with contract requirements.

Bay 8 Tower:

The QA Inspector randomly observed ZPMC Personnel performing heat straightening operations on Tower Diaphragm Sub-Assembly 28M Top SA316(W) per HSR1(T)-136.

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Summary of Conversations:

As noted in the above body of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie	Quality Assurance Inspector
Reviewed By:	Hager,Craig	QA Reviewer
